

Project Number
17.01343



Date
5/8/2017

Lab 1
Sphere

Test Sample Description

Catalog Number: P7510-30
Description: Puck Light

Photometry

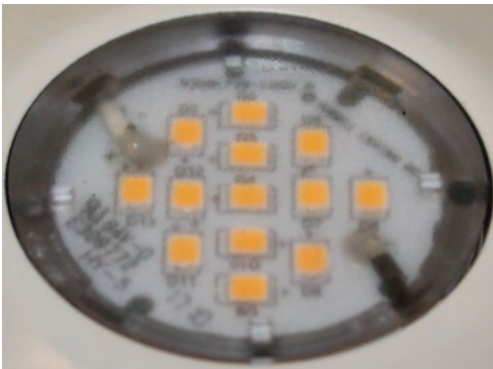
Test Method: IES LM-79-08 § 10
Preburn Time: 0:00
Time To Stabilize: 0:45
Total Operating Time: 1:47

Input Voltage (Volts): 120.1
Input Current (Amps): 0.035
Input Wattage (Watts): 4.0
Ambient Temp (°C): 24.2

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 2:00
Time To Stabilize: 1:05
Total Operating Time: 3:05

Input Voltage (Volts): 120.0
Input Current (Amps): 0.035
Input Wattage (Watts): 3.9
Ambient Temp (°C): 24.3



Hubbell Lighting, Inc.

701 Millennium Boulevard
Greenville, SC 29607
www.hubbellighting.com

Checked (sphere): B. LEE
Checked (photometry): M. HALL
Approved: D. BLACK



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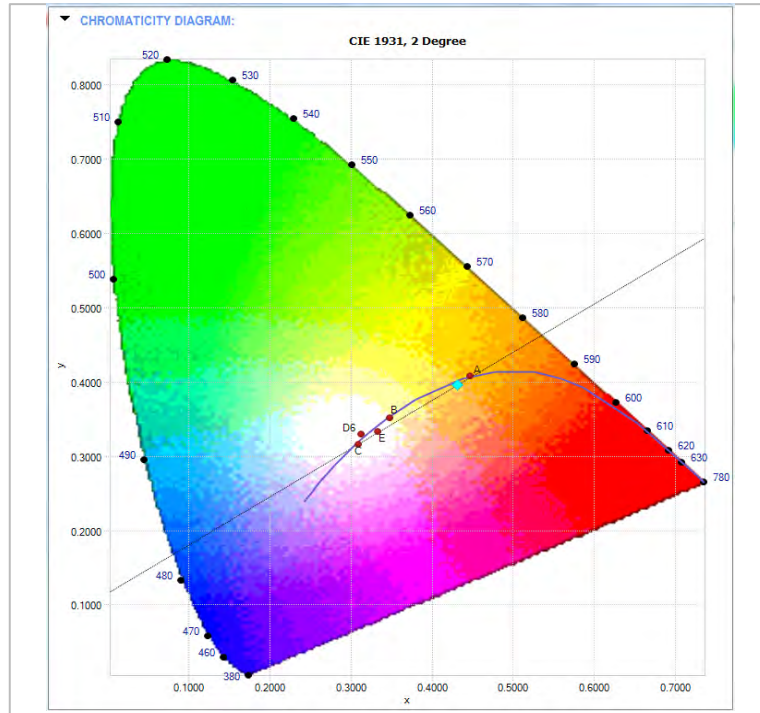


Lamp Cat#: 93081729
Lamp Desc: 13 - HAL 3000K LEDs
Driver Desc: NA

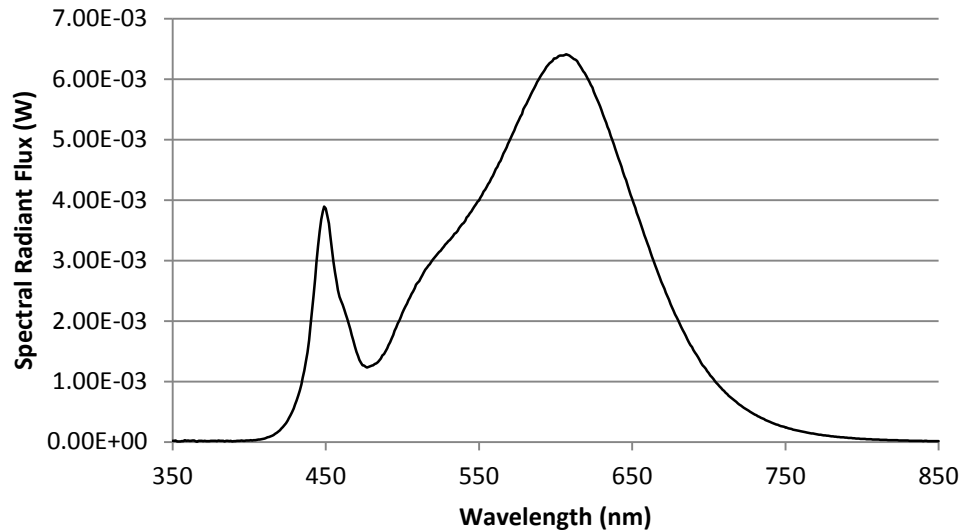
Efficacy: 81.5 LPW S/P Ratio: 1.4 LM/LM

Spectral Results

Name	Value	Unit
Φ	1.00	watts
$\Phi(v)$	318	lumens
$\Phi(v')$	437	lm'
Chrom x	0.4312	
Chrom y	0.3968	
Chrom u	0.25	
Chrom v	0.3451	
Duv	0.0022	
Chrom u'	0.25	
Chrom v'	0.5176	
CCT	3037	K
Purity	48.5	%
λ (dom)	583.5	nm
FWHM	134.8	nm
λ (peak)	607.1	nm
λ (center)	593.7	nm
λ (centroid)	582.2	nm
SDCM	Cool White	
RA	84	
Corr. Coef.	0.002127136	
Correlation	0.0054	
R1	83.2	
R2	91.8	
R3	96.5	
R4	82.6	
R5	83.4	
R6	89.8	
R7	84.0	
R8	63.1	
R9	16.9	
R10	81.0	
R11	82.1	
R12	74.3	
R13	85.3	
R14	98.7	



Spectral Distribution of Radiant Flux



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ADDRESS: 701 MILLENNIUM BLVD
GREENVILLE, SC 29607

CATALOG NUMBER: P7510-30

LUMINAIRE: P7510 Puck Light

LAMP CAT. NO.: 93081729

LAMP: 13 - HAL 3000K LEDs

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

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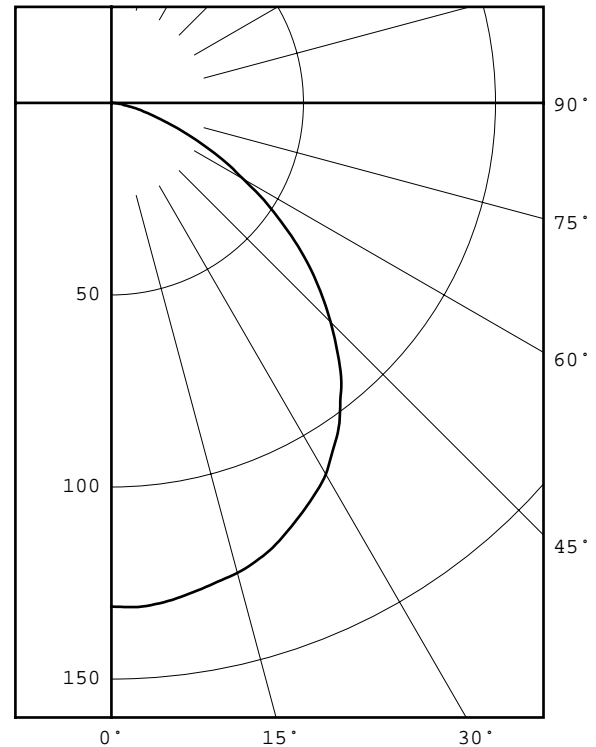
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DEG	CANDELA	LUMENS
0	131	
5	131	12
15	127	36
25	118	54
35	103	64
45	81	62
55	54	48
65	27	27
75	9	10
85	1	2
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	102	32.4
0- 40	167	52.8
0- 60	277	87.7
0- 90	316	100.0
90-180	0	0.0
0-180	316	100.0

EFFICACY = 79.8 lm/W
CIE TYPE - DIRECT
LUMINAIRE SPACING CRITERION = 1.26
LUMINOUS DIAMETER: 2.000

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	56308.
55	46364.
65	31871.
75	16775.
85	7925.





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CANDELA DISTRIBUTION

0.0	131
2.5	131
5.0	131
7.5	130
10.0	129
12.5	128
15.0	127
17.5	125
20.0	123
22.5	120
25.0	118
27.5	115
30.0	112
32.5	107
35.0	103
37.5	98
40.0	93
42.5	87
45.0	81
47.5	74
50.0	68
52.5	61
55.0	54
57.5	47
60.0	40
62.5	34
65.0	27
67.5	22
70.0	16
72.5	12
75.0	9
77.5	7
80.0	4
82.5	3
85.0	1
87.5	1
90.0	0



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	5	3
5-	10	9
10-	15	15
15-	20	21
20-	25	25
25-	30	29
30-	35	32
35-	40	33
40-	45	32
45-	50	30
50-	55	27
55-	60	22
60-	65	16
65-	70	11
70-	75	6
75-	80	3
80-	85	1
85-	90	0

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	10	12
10-	20	36
20-	30	54
30-	40	64
40-	50	62
50-	60	48
60-	70	27
70-	80	10
80-	90	2



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0		
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0	
0	119	119	119	119	119	116	116	116	116	111	111	111	111	106	106	106	102	102	102	100
1	110	106	103	99	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87	87
2	101	94	88	83	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75
3	93	84	76	70	70	91	82	75	70	79	73	69	77	72	67	74	70	66	64	64
4	86	75	67	60	60	84	73	66	60	71	64	59	69	63	58	67	62	58	56	56
5	79	67	59	53	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49	49
6	73	61	52	46	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43	43
7	68	55	47	41	41	66	55	47	41	53	46	41	52	45	40	50	45	40	38	38
8	64	51	42	37	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34	34
9	59	47	39	33	33	58	46	38	33	45	38	33	44	37	33	43	37	33	31	31
10	56	43	35	30	30	54	42	35	30	42	35	30	41	34	30	40	34	30	28	28

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS TEST SAMPLE.

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Goniophotometer Calibration

Calibration Lamp: GE 1000W, 120V, T6, CL (FEL)

Lamp Number: ITL78966-1000-38

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 25889.0 Lumens

Calibration Date: 09/09/2016

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 1 - Test Distance: 31.74'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F47B	11/2/2017

Sphere Calibration

Calibration Lamp: EIKO 28V75W/E10

Lamp Number: SCL-1400-J136

Calibration Current: 2.679 Amps

Total Luminous Flux: 1427 Lumens

Test Equipment Used - Color & SPD; THD & Power Factor

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>3-Meter Sphere</i>	Labsphere / LMS-3M	N/A	Calibrated Weekly
<i>Thermometer</i>	National Instruments / USB TC01	1912751	11/2/2017
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	11/1/2017
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	031159372	10/31/2017
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148505	12/1/2017
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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